DOCUMENT RESUME

ED 476 143 TM 034 892

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TITLE	Relationships among P-12 and Higher Education Report Cards for State Education Systems.
PUB DATE	2003-04-00
NOTE	27p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 21-25, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01/PC02 Plus Postage.
DESCRIPTORS	Educational Indicators; *Educational Quality; *Elementary Secondary Education; *Grading; *Higher Education; Multiple Regression Analysis; Periodicals; *Report Cards
IDENTIFIERS	National Assessment of Educational Progress; State Policy

ABSTRACT

This study used multiple regression analysis to ascertain the extent to which states' grades on the "Education Week" "Quality Counts" report cards for P-12 predicted states' grades on the National Center for Public Policy in Higher Education's "Measuring Up" report cards. "Quality Counts" graded states' P-12 systems in 8 areas: National Assessment of Educational Progress (NAEP) mathematics and reading achievement, Standards and Accountability, Teaching Quality, School Climate, and three indicators of resources. "Measuring Up" graded states' higher education systems in five areas: Preparation, Participation, Affordability, Completion, and Benefits. Although some "Quality Counts" grades (e.g., NAEP performance) accounted for variability in "Measuring Up" grades as expected, other failed to enter the regression equations or had negative relationships with "Measuring Up" grades. These outcomes are discussed in terms of policy tradeoffs that might be indicated and of the limitations of both report cards. (Contains 2 tables and 20 references.) (Author/SLD)

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Relationships Among P-12 and Higher Education Report Cards for State Education Systems

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This paper is prepared for the:
Annual Meeting of the American Educational Research Association
Chicago, IL - April 2003

Table 1

Standarized regression coefficients, regression constant, N, multiple R, and adjusted multiple R-squared from each of five regressions of *Measuring Up* Grades on *Quality Counts* Indicators

	Standardized Regression Coefficients											
						Resources						
	Grd 4 NAEP reading, 1994	Grd 8 NAEP math, 1992	Standards and Assessment	Teaching Quality	School Climate	Adequacy	Allocation	Equity	Constant	n	Multiple R	Adjusted Multiple R Squared
Preparation	X	1.016	0.410	X	-0.245	X	X	X	46.715	37	0.857	0.710*
Participation	X	0.498	X	X	X	X	-0.287	X	98.041	41	0.596	0.322*
Affordability	X	X	X	X	X	X	0.237	X	43.733	50	0.237	0.036
Completion	0.892	X	X	X	-0.671	0.257	-0.163	X	125.728	38	0.803	0.601*
Benefits	X	0.584	X	X	-0.449	0.177	X	-0.279	126.062	39	0.714	0.452*

Significant at $p<.001$

An "X" indicates variable was in the equation but was stepped out.

Table 2

Pearson correlation coefficients among four indicators of state demographics and state NAEP scores

	Income per capita, 1999[a]	Percent minority enrollment in K-12, 1997-98[b]	Percent children in poverty, 1996[b]
Grade 4 Reading, 1998 (n=39)	0.454	-0.701	-0.540
Grade 8 mathematics, 1996 (n= 40)	0.434	-0.576	-0.765

All correlations are significant at $p<.005$.

[a]Weidleim (2000, September 1)

[b]Education Week (2000, January 13, pp. 91-163)

Abstract

This study used multiple regression analysis to ascertain the extent to which states' grades on Education Week's Quality Counts report cards for P-12 predicted states' grades on the National Center for Public Policy in Higher Education's Measuring Up report cards. Quality Counts graded states' P-12 systems in 8 areas: NAEP mathematics and reading achievement, Standards and Accountability, Teaching Quality, School Climate, and 3 indicators of Resources. Measuring Up graded states' higher education systems in 5 areas: Preparation, Participation, Affordability, Completion, and Benefits. Though some Quality Counts grades (e.g., NAEP performance) accounted for variability in Measuring Up grades as expected, others failed to enter the regression equations, or had negative relationships with Measuring Up grades. The authors discuss these outcomes in terms of policy tradeoffs that might be indicated and of the limitations of both report cards.

Relationships Among P-12 and Higher Education Report Cards for State Education Systems

Rationale for State-Level Report Cards

Gormley and Weimer's (1999) study of report cards as policy instruments concluded that the use of report cards may be valuable when information asymmetry exists between the providers and suppliers. Information asymmetry is likely to exist in public monopolies where the quality of the service is hard to define and the suppliers have much greater knowledge of the services they provide than do the clients. Gormley and Weimer's perspectives suggest that the characteristics and condition of public education make it a ripe industry for report cards.

Report cards (and other forms of reporting) can stimulate needed public discussion, address issues of accountability, and be used to leverage public support for improvement. Report cards also offer an alternative to legislation and regulation. For these reasons, policy makers may favor assessments such as report cards despite their technical limitations (McDonnell, 1994).

The release of a national education report card generates as many questions as answers. Putting two national education report cards in juxtaposition creates even more questions. The current presence of a P-12 and higher education report card, however, offers a unique opportunity to create a starting point to quantitatively examine the relationships between P-12 and higher education. An investigation into state-level grades between P-12 and higher education may confirm P-12 and higher education connections, or it may highlight policy tradeoffs, some of which may be unintended. A purposeful analysis of report card data also may raise questions about the composition of certain

report card category grades and how they are derived, thus drawing attention to considerations for improvement of the category.

The National Center for Public Policy and Higher Education ([NCPPHE], November, 2000a) has developed a state-by-state report card, called Measuring Up 2000, to grade state higher education performance. This effort comes after nearly 40 years of discussion and efforts in the United States to compare states' performance in P-12 education and thus increase educators' accountability and effectiveness (Vinovskis,1998). The visibility of P-12 report cards has been elevated over the last five years by Education Week's annual publication, "Quality Counts" (e.g., Education Week, 2000). The presence of these two report cards provides a unique opportunity to analyze the relationships between state grades for P-12 and higher education at a time when the crescendo for P-16 collaboration is reaching its peak.

P-12 issues have been dominant in states around the nation over the last few years. But Lovett (2001) recently wrote that the National Governors' Association has vowed to make higher education a top priority in states around the country. Many believe that the way to a formidable educational system is to view public education as a continuum. In a recent survey of legislators from all 50 states, Ruppert (2001) found a renewed call for seamless education. Legislators in Ruppert's study believe the key to a successful P-16 system is discovering and enhancing collaborations between higher education and P-12.

Indeed, there is no shortage of opinion—and convincing evidence—that if higher education and P-12 education work together, opportunities will flourish and economic and social benefits will result. Hodgkinson (1999) speaks of the necessity to intensify P-

12 and postsecondary education relationships to create equity linkages that would reduce economic and social differences. Bragg (1999) outlines the important secondary and postsecondary linkages in school-to-college transition, which he states can create valuable educational opportunity. Other authors have documented examples of programs in specific states meant to enhance collaborative relationships. Lorence (1994) details the influential role Wisconsin two-year institutions have played in functioning as community resources that bridge the gap between secondary and postsecondary education. White (1994) outlined a partnership between Fairfax County public schools in Virginia and George Mason University to display the importance such collaboration plays in restructured schooling and teacher education programs. Macroff, Callan, and Usdan (2001) commissioned twelve journalists from prominent newspapers to explore the impact of collaborations and subsequently offered a framework to enhance standards, equity, teaching, governance, and community building through collaboration. After reading any of the cases, one is drawn to conclude that it was the effectiveness of the collaboration that gave rise to improved results in such areas as graduation rates, lower dropout rates, or increased student achievement. These claims of positive outcomes as the result of collaboration cannot be denied, but neither have they been quantitatively confirmed.

Purpose

The available data in the existing state-by-state P-12 and higher education report cards enable us to quantitatively explore P-16 connections. One can reasonably posit that if P-12 and higher education are connected, certain grades for one system are related to grades for the other system. For instance, few would argue with the qualitative assertion

that high levels of teaching quality maximize the chance that students will be prepared for college. Our objective was to conduct analyses between the two state-level report cards to get at such seemingly logical assertions. Exploration of these data may speak to the nature of how P-12 and higher education are related. It may also help us understand whether and how an activity in one system affects the other.

We attempt here to answer three questions about P-12/higher education relationships: 1) Are P-12 and higher education related in ways that can be quantified? 2) If such relations exist, do they make theoretical sense, or are they counterintuitive? and 3) What are the policy implications of the answers to the first two questions?

The mere existence of a relationship between P-12 and higher education variables does not necessarily imply causation. We do, however, in this article sometimes speculate about causal relationships between variables for two reasons. First, this is an exploratory investigation and our main purpose is to stimulate discussion. Second, P-12 education occurs before higher education in students' lives, and analyzing P-12's influence on higher education outcomes is a logical first step.

We realize that one could speculate about influences in the other direction, i.e., those who work in and make decisions about P-12 education are products of our higher education systems, and thus higher education systems that produce more learned future decision-makers might cause better P-12 systems. The Measuring Up 2000 indicators for higher education, however, have almost nothing to do with how much students learn in higher education. Other than including some 1992 data about adult literacies, they restrict themselves to how well students are prepared for higher education, whether they participate, how much it costs them, whether they finish, and whether they and society

benefit from their status and behaviors later on. In sum, our speculations in this article tend to be about how the conditions represented by the Quality Counts 1997 indicators influence the conditions represented by the Measuring Up 2000 indicators. We used available P-12 data from the 1997 Quality Counts report card grades that generally predated the higher education grades in Measuring Up 2000. Thus, for purposes of our analyses, we treated the P-12 data as an input to higher education. The Quality Counts '97 report card graded P-12 education, by state, in eight areas: grade eight National Assessment of Educational Progress (NAEP) mathematics, grade 4 NAEP reading, Standards and Accountability, Teaching Quality, School Climate, Resources: Adequacy, Resources: Allocation, and Resources: Equity. Measuring Up 2000 grades higher education, by state, in five areas: Preparation, Participation, Affordability, Completion, and Benefits.

The Report Card Categories

The five categories that comprise Measuring Up 2000 are summarized below. We also include a general description of subcategories under each major category. It is not our intent to fully define each subcategory and its mathematical contribution to the category grade. Complete and full descriptions of the higher education report card subcategories are available in the Technical Guide (NCPPHE, 2000b).

- Preparation. How well does the state prepare students to be eligible for and to benefit from opportunities for education beyond high school? Subcategories include: high school completion, high school mathematics and science course taking, grade 8 NAEP performance in mathematics, reading and writing, and ACT/SAT and Advanced Placement test performance.

- Participation. How well does the state provide opportunities for enrollment in postsecondary education? Subcategories include: high school freshmen enrolling in college within four years, 18-to-24 year-olds enrolling in college, and 25-44 year-olds enrolled part-time in some type of postsecondary education.
- Affordability. How affordable is higher education for students and their families? Subcategories include: Family ability to pay at two- and four-year public and private colleges, need-based aid, low-priced colleges, and student debt.
- Completion. How well do students persist toward and complete certificates and degrees? Subcategories include: returning students at two and four-year colleges and degree completion rates.
- Benefits. What are the economic, civic and social benefits that accrue to a state as a result of a more highly educated population? Subcategories include: surveys of adult literacy, charitable giving, population voting, increased income from education, and indicators of educational attainment.

The eight categories that comprise the Quality Counts '97 report cards are summarized below. Complete and full descriptions of the P-12 report card categories and subcategories are available in Education Week (1997).

- NAEP mathematics. The percent of students in grade eight who scored above proficient in 1992.
- NAEP reading. The percent of students in grade four who scored above proficient in 1994.

- Standards and Accountability. The extent to which a state 1) has developed educational standards, 2) uses various assessment techniques to measure those standards, and 3) holds schools and students accountable for performance.
- Teaching Quality. How well states assess teachers and assure that they are teaching in their field of expertise, and the level of professional support and training for teachers' experiences. Also included as a portion of this grade is the effectiveness of teacher education in the state.
- School climate. A conglomeration that includes class size, safety, student and parental involvement, local autonomy, and teacher and principal relationships. Fifteen subcategories comprised this measure.
- Resources: Adequacy. A state's spending effort on education, including spending per student and percentage of taxable dollars devoted to education.
- Resources: Allocation. The amount of expenditure on instruction, a technology measure, and percentage of schools with inadequate buildings.
- Resources: Equity. A state's effort to equalize per-pupil funding levels across districts.

Method

We included all Quality Counts '97 P-12 report card grades as predictor variables for each Measuring Up higher education grade, but we were not prepared to state hypotheses. Rather, our intent was to take a step toward developing hypotheses. This meant that our investigation was exploratory and that a regular multiple regression was not appropriate (McNeil, Newman, and Kelly, 1996). A stepwise regression was the prime methodological candidate for the analysis, and we chose to use backward stepwise

regression. Backward stepwise regression takes all independent variables and deletes those that are not contributing to the goodness of fit. We did not use forward stepwise regression because we did not postulate which variables were most salient.

Since three of the P-12 report card categories did not contain grades for all 50 states, we faced the issue of a limited number of observations. According to the University of Texas Statistics Department website (University of Texas), consensus is lacking regarding the number of observations required per independent variable for multiple regression analysis. The numbers in the literature range from 5 to 50.

All of the higher education categories had the full 50 observations, but these categories served as the dependent variables. The P-12 report card data provided eight independent variables, but one category had only 39 observations. This put us just below the five-observation minimum. Since we were not prepared to state hypothesis, and our intent was purely exploratory, we decided to include all eight P-12 categories as independent variables for each higher education grade.

When the stepwise analysis begins, it automatically eliminates any case that is missing data for any predictor variable. If the predictor variable with missing cases is "stepped out" of the backward regression, the missing cases are reinserted into the ensuing analysis. Since there is a higher probability that the model becomes unstable as cases are eliminated, we tracked the statistical significance of the total final model. This allowed us to offer cautionary and conservative remarks regarding each model.

We derived five equations for our exploratory backward stepwise regression analysis. On the first runs, we discovered outliers for the Completion and Benefits

models. We removed the outlier for each equation and reran the analysis for those equations.

Results

Table 1 shows the results of the regression equations. Four of the five models were statistically significant at a .001 level. The weakest of the four significant models explained 32% of the variance for a higher education grade; the strongest model explained 71% of the variance for a higher education grade. Only the Affordability model failed to reach significance. From a broad perspective, the initial findings suggest that there are quantifiable connections between states' P-12 and higher education systems.

Insert Table 1 about here.

The model for Preparation

The regression analysis accounted for 71% of the variance in Preparation for higher education. This is an extraordinarily high Adjusted R-squared value, but the result is not unexpected, since the two report cards use data from similar sources. The Quality Counts '97 grade for Achievement uses 1992 grade eight NAEP mathematics performance. The Measuring Up 2000 grade for preparation also uses grade eight NAEP mathematics performance, though from 1996 and 1998. The P-12 Grade 8 Mathematics predictor dominated the regression equation for preparation, but two other P-12 grades also were retained in the equation and merit commentary.

The Quality Counts '97 indicator Standards and Assessments contributed to the Preparation model and was well within the tolerance limits we set for variable exclusion.

The positive contribution of Standards and Assessments to higher education Preparation would seem logical since so many state policymakers have relied on standard setting and accompanying assessments to leverage higher achievement (and, by implication, preparation for higher education). On the other hand, Education Week (1997, p. 19) cautions that "the standards movement is too new to predict with any certainty whether it will succeed," and admits that it lacks research conclusively linking higher standards to higher student achievement, but includes Standards and Assessment as an indicator only on the basis of "experience and common sense" (p. 19). Education Week also cautions "we know very little about the rigor of those standards" (p. 32). Thus, the rigor of this Quality Counts '97 grade is also suspect. In fact, 22 of the 50 states received an "A" in this category. Admittedly, the significance of Standards and Assessment in the Preparation model may be as attributable to happenstance as to any state's rationale.

The Quality Counts '97 indicator School Climate also remained in the equation, but negatively. This, at first glance is counterintuitive, for one would expect better climate to result in better preparation. Education Week defines School Climate broadly as whether schools are "organized and operated in a way that encourages and supports teaching and learning" (Education Week, 1997, p. 19). It has been the conventional wisdom for decades that this very characteristic was essential for successful schools. But the way Education Week operationalized that characteristic may be the problem. In Quality Counts '97, School Climate is comprised of 15 variables, some quantitative, some perceptual, and some having to do with state policy and regulations. Some of the 15 variables are controversial. For example, local control is one subcategory despite

Education Week's statement that, "Local control makes widespread change of schools extremely difficult" (Education Week, 1997, p. 48).

School Climate remains in three of the four significant models, but it is always negative, and we suspect that the measure, like Standards and Assessment, needs to be reviewed. School Climate is almost the opposite of Standards and Assessment: no states received an "A," and 27 out of the 50 states received a "C" or "C-". It is very likely that the subcategories are working at cross purposes since grades are so low. If subcategories are negatively correlated, it would be difficult for any state to attain a high grade (Ewell, 2001, p. 7). Education Week, in subsequent Quality Counts issues, has worked to modify the School Climate category.

The model for Participation

The regression analysis accounted for 32% of the variance in Participation in higher education. Grade 8 NAEP mathematics performance was positively associated with Participation, and Resources: Allocation was negatively associated with it. NAEP Mathematics's performance in this model is not surprising. The Third International Mathematics and Science Study, and concern over the United States' showing in international comparisons, has focused educators' attention on mathematics in particular and been accompanied by a great deal of collaboration between P-12 and higher education systems (Schoen, Fey, Hirsch, & Coxford, 1999; Reys, Robinson, Sconiers, & Mark, 1999).

The explanation for the negative contribution of Resources: Allocation to the participation model may lie, as with School Climate, in the measure's subcategories. The Resources: Allocation grade gave states credit for allocating money on teacher salaries

and instructional supplies, making computer hardware available to teachers, and not having school buildings in conditions of major disrepair. Since none of those components address the actual amount of funds spent on these things nor the spending of funds on the professional development of teachers or technical support for use of the resources available, we suspect they may be missing the mark. In fact, after the 1997 Quality Counts report, Education Week dropped this particular subcategory as a finance measure. We have tested Resources: Allocations' effectiveness as a predictor either to validate Education Week's decision to drop the indicator or to raise questions as to why it was excluded.

The model for Affordability

The model for Affordability was not statistically significant. Though clearly education leaders have to make trade-offs between the resources they provide for P-12 schooling and higher education, this analysis showed no relationships between the two sets of indicators.

The model for Completion

The regression analysis accounted for 60% of the variance in Completion. Grade four NAEP Reading Achievement and Resources: Adequacy remained in the equation and contributed positively. We presume that NAEP Reading Achievement represented the general level of academic achievement in the state, since obviously none of those fourth graders in 1994 was completing higher education in the year 2000. Though NAEP Mathematics was not retained in the model, it seems reasonable that at least one of the measures of P-12 academic achievement contributed positively to higher education Completion.

The positive contribution of adequate P-12 investment to Completion, directly interpreted, indicates that states that devote more resources to schools and to each student receive higher completion grades. The higher education Completion category is comprised of both persistence (20% of the grade) and completion (80% of the grade). The effect of Resources: Adequacy on Completion does not contradict anything we were expecting: early investment translates into persistence and completion. Though money may not be the definitive solution to every problem, this finding provides some evidence that adequate P-12 funding leads to desirable outcomes.

Resources: Adequacy's significance in Completion creates an additional question, however: Why didn't Resources: Adequacy significantly influence Preparation or Participation? Our macro-analysis did not test for relationships between and among P-12 and higher education subcategories. Such an analysis might provide additional clues to help us explain our results. We also consciously chose a multivariate analysis over a bivariate analysis so that we could simultaneously test multiple predictor variables against one dependent variable. The results of a multivariate analysis are complex and not always predictable, and the nature of a bivariate correlation may indeed change in the multivariate world.

School Climate and Resources: Allocation entered the equation, but as with Preparation and Participation, they entered the model negatively. We discussed above the problems we see with these variables. We note here that many Northeastern states that scored extremely well in higher education Completion scored very low on the Resources: Allocation subcategory "1995 state technology investment." It is possible that this subcategory was not indicative of state investment or that Northeastern states

(and perhaps others that faired poorly on this measure) have significant private technology investment in state and private P-12 that is not accounted for by the measure. In any case, a visual observation of the data makes it clear that states like Maryland, Delaware, New Hampshire, and Rhode Island scored poorly on some Allocation subcategories but had strong Completion grades, thus contributing to the negative relationship.

The model for Benefits

The regression equation accounted for 45% of the variance in higher education Benefits. Grade 8 Mathematics Achievement, School Climate, Resources: Adequacy, and Equity were all retained in this model. As with Completion, we assume that either of the NAEP scores represents achievement in general and thus affects Benefits positively. Higher student achievement leads to higher Benefits. Also as with Completion, more generously funded P-12 systems result in higher Benefits.

Equity had a negative effect on Benefits. The negative effect of Equity on Benefits highlights some possible tradeoffs in pursuing a particular P-12 financing strategy. Low disparities in district funding increases a state's Equity grade but lowers its Benefits grade. The apparent tradeoff between Equity and Benefits may have surfaced because the number of independent variables retained in the equation makes any single variable's contribution more difficult to explain. But it also may be that if a state is more equitable it is spreading its existing resources too thin, and that this has an adverse effect on Benefits. Clearly, a state's values and ideals underlie its financing strategies even in the presence of real or apparent tradeoffs.

Conclusions

In the "Purpose" section, we listed three questions for this study. We answer them here.

Are P-12 and higher education related in ways that can be quantified?

Our models involved eight Quality Counts '97 variables and their ability to predict each Measuring Up 2000 grade. Four of our five models were statistically significant, indicating that some relationships among state systems can be quantified. Whenever relationships failed to materialize, or to be in the opposite direction from that we would have expected, we critiqued the Quality Counts '97 grades.

It is important to remember that specific Measuring Up 2000 grades could also need revision. In fact, the NCPPHE (November 2000a, p. 182) specifies that it restricted itself to "publicly available information that has been collected by government agencies and by nationally recognized private organizations," and it describes 15 categories of information that it considers important, but that were unavailable. So what we really have here is an attempt to identify relationships among imperfect report cards. The results seem promising, but there is room for improvement.

If such connections exist, do they make sense theoretically or are they counterintuitive?

Some of the relationships we found do make sense. For example, five of the fourteen relationships revealed by the regression analyses are between P-12 NAEP performance and higher education grades, though the grade for higher education Preparation also used NAEP data in its construction. Those who believe school systems can improve academic achievement for all students, and that standardized tests provide important information and leverage to accomplish that, will be heartened. On the other hand, those who see standardized test scores as mere proxies for socio-economic status or

ethnic background will be less impressed. We decided to pursue the NAEP implications a bit further. We ran correlations between recent NAEP data and three indicators of state demographics: income per capita (Weidleim, 2000, September 1), percent minority enrollment in K-12 (Education Week, 2000, pp. 91-163), and percent of children in poverty (Education Week, 2000, pp. 91-163). The correlations appear in Table 2.

Put Table 2 about here.

For each NAEP grade, there is a state demographic variable that accounts for approximately half the variance in state achievement. Percent minority enrollment in K-12 had a correlation of –0.701 with grade four reading, and percent of children in poverty had a correlation of –0.765 with grade eight mathematics. Thus, there are clear and strong relationships between NAEP performance and state demographics, demographics about which policymakers may be able to do little. On the other hand, a substantial proportion of the variance is not accounted for by these demographics and that suggests state policymakers do have room to influence academic achievement. States that desire to monitor the overall success of their P-16 systems, but do not currently participate in NAEP, might want to reconsider that decision.

Some of the analysis results from our regression equations were counterintuitive. First, Standards and Assessment is an area that has drawn much attention in the states and consumed considerable resources. In our analysis, it served as a predictor only in the Preparation model. A number of states received an "A" on this category, which immediately caught our attention. The implication of the widespread "A" grade is that

most states are actually doing well in creating standards and assessment, but that it has little or no bearing on P-12 outcomes or higher education grades. A reason may be that the Quality Counts '97 grades for Standards and Assessment are not based on the level of the standards or the rigor of the assessments. Education Week (1997, pp. 32-33) was forthright in stating its concern that it had no data on the rigor of any state's standards or assessment system. This is an area that needs further research.

Teaching Quality had no relationship of any kind with higher education indicators. Teacher quality has drawn tremendous interest across the states in light of teaching shortages, but it is curious that this category did not play a role in our regression equations. Education Week itself issued some cautionary comments regarding Teaching Quality (Education Week, 1997, p. 40). After strong statements affirming the ultimate dependence on the "competence and commitment of its teachers" for America's public schools to succeed, and citations of research studies validating the relationship between teacher expertise and student achievement, Education Week goes on to caution that "measuring teacher quality is not easy," that "we have relied upon the best indicators available," and finally that "many of the indicators needed to assess teaching are simply missing." This is another area that needs further research.

If such connections exist, what are the policy implications?

In each case where an expected relationship failed to materialize or where, in fact, a relationship occurred in the opposite direction from that expected, scholars and policymakers must examine the issue more closely and engage in frank discussions. If they determine that the relationship failed to materialize because the data were inadequate to truly "get at" the phenomena of interest, then they must decide whether society should

pay the fiscal and social costs for higher-quality data. If, however, the data appear to withstand critical scrutiny, then we must take hard looks at some cherished assumptions or at least face the fact that difficult policy tradeoffs exist. Furthermore, states that do not presently participate in some of the data-collection efforts used by the Quality Counts and Measuring Up report cards may come to reconsider their indifference to these efforts.

Finally, educators and policymakers must deliberate about what meaning to make of imperfect reporting systems that have some inexplicable relationships with each other. This will involve what Guttmann (cited in McDonnell, 1994, p. 415) described as "rational deliberation" among contending parties (as educators and policymakers often are). But each side must accept the challenge to do this well. Practitioners must work to overcome their cynicism about policymakers' motives and distance from the problems. Policymakers must eschew the "ugly face" of persuasion, when it becomes "intentionally manipulative, robbing people of their capacity to think independently" (McDonnell, 1997, p. 400). Practitioners must work to understand policymakers' needs and responsibilities to have accountability data, and policymakers must give up their illusion that accountability data alone will bring about a cheap fix for education so that they can ignore the most costly "capacity building."

In the end, the development of a state report card is a worthwhile endeavor. And analyses such as ours are necessary to casting a critical eye on report cards and their implications. We see scholars working to refine report cards, and we hope that more states will elect to participate in the data collection. Report cards can promote enlightened discussion. But creation of report cards is only the beginning. The process

must continue with analyses of the report card grades and other associated variables, and with rational open-minded deliberation about the findings of such analyses.

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